REMARKS:

Claims 7-23 are in the case and presented for consideration.

Claims 7-11 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

In particular, the Office has objected to the use of the words "frame" and "control means" in the previous amendment of claim 7. The word frame has been removed to advance prosecution. Regarding the use of the phrase "control means," applicants have rewritten claim 7 to recite "a control means for opening the shut-off means in a controlled manner," as a means plus function clause. The undersigned thanks the examiner for the interview of July 25, 2005. As explained in the Interview Summary of July 27, 2005, the examiner previously agreed during that interview that there was sufficient support in the specification for the control means in the means plus function clause, as now recited in claim 7 and new claim 12. That is, the specification explains at page 2, lines 30-33, and page 3, lines 1-12, that the needle 9, lever 11, and hydraulic unit 12 provide a means for opening the shut-off means in a controlled manner. Applicants believe that the means plus function clause is in proper form and meets the requirements of 35 U.S.C. 112, first paragraph. The means plus function clause also meets all of the requirements of 35 U.S.C. 112, sixth paragraph for the following reasons.

35 U.S.C. 112, sixth paragraph states:

> "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

Congress enacted this statute to encourage inventors to describe claim elements in functional terms to avoid having to provide an exhaustive list of all possible structures that might be used to perform a specific function. *O.I. Corp. v. Tekmar Co., Inc.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997); *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1308 (Fed. Cir. 1998) ("The 'means' term in a means-plus-function limitation is essentially a generic reference for the corresponding structure disclosed in the specification.") An inventor who chooses to employ the means-plus-function clause has an affirmative duty to clearly link the function described in the claim with at least one corresponding structure in the specification either by specification or by prosecution history. *See, B. Braun Med., Inc. v. Abbott Lab.*, 124 F.3d 1419, 1424-1425 (Fed. Cir. 1997). Applicants have recited a control means for opening the shut-off means in a controlled manner, wherein "opening the shut-off means in a controlled manner" is the function assigned to the control means, and the structure in the specification which carries out this function is the needle 9, lever 11, and hydraulic unit 12. Thus, applicants have satisfied the affirmative duty to clearly link the function described in the claim with at least one corresponding structure in the claim. The means-plus-function clause is believed to be in proper form under 35 U.S.C. 112, sixth paragraph.

Applicants further note that it is entirely appropriate to provide a means plus function clause in which the corresponding structure involves more than one structural element which synergistically work together as one unit, since the Federal Circuit in *B. Braun Med.* stated that at least one corresponding structure is required as opposed to only one corresponding structure. *Also See, Toshiba Corporation v. Lexar Media, Inc.*, 2005 U.S. Dist. Lexis 5213 (N.D.Ca. 2005) (finding that the corresponding structure for

a "memory means" in the '351 patent is the memory cell array, the bitline control circuit, the program completion detection circuit, and the input/output buffer, that the corresponding structure for the an erasing means in the '067 patent is a CPU and algorithm being run in the CPU, and that the control means in the '067 patent is a CPU and algorithm being run in the CPU); *Trinity Industries, Inc. v. Road Systems Inc.*, 121 F. Supp. 2d 1028 (E.D.Tex. 2000) (finding that the corresponding structure for a releasing means is a cable anchor consisting of a steel tube and a plurality of wedge shaped lugs, and apertures in the guardrail.)

Finally, during the examiner interview of July 25, 2005, the examiner noted that the control means plus function clause of claim 7 may fail to satisfy the written description requirement of 35 U.S.C. 112, first paragraph, as improperly broadening the scope of the claim under MPEP 2163.05. The examiner did not explain why the proposed means plus function language would improperly broaden the scope of the claim. Regardless, applicants respectfully disagree for the following reasons.

As explained above, the means plus function clause was enacted by Congress to encourage inventors to describe claim elements in functional terms to avoid having to provide an exhaustive list of all possible structures that might be used to perform a specific function. George Steinbichler, one of the applicants for the present invention, has provided a declaration under 37 C.F.R. 1.132, in which he states as follows:

> "At the time the invention was made, it was well known in the art that such control means can be actuated hydraulically as explicitly shown, or alternatively, for example, electrically . . . In awareness of the application as filed, everybody skilled in the art understands that the controllable unit 12 being actuated hydraulically is only one preferred example of how to build a control means having such abilities and that said control means could be actuated electrically or by any other suitable means without departing from the invention. Therefore the application implicitly teaches to use any other suitable type of control means, too."

Thus, applicants have provided a means plus function clause for the very same reason that Congress had intended in the enactment of the statute. Applicants have provided a means plus function clause to describe elements 9, 11, and 12 in functional terms to avoid having to provide an exhaustive list of equivalents which are well known in the art to one having ordinary skill in the art.

Turning to MPEP 2163.05, the relevant examples listed under MPEP 2163.05 are distinguishable based on the following rationale. According to MPEP 2163.05, omission of a limitation is a written description requirement problem when the "disclosure makes crystal clear that a particular (i.e., narrow) understanding of a claim term is an 'essential element of the [inventor's] invention." *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 45 USPQ2d 1498 (Fed. Cir. 1998). A narrow construction is only compelled when unambiguous language in the specification positively makes clear that the claim language can only have one interpretation. By contrast, the means plus function clause of the present invention is distinguishable because the disclosure does not explicitly state that hydraulic control is essential to carrying out the invention. Rather, it is simply disclosed as one example, and under 35 U.S.C. 112, sixth paragraph, applicants may elect to recite a means plus function clause to cover any other equivalent structure which can accomplish the same function.

Furthermore, applicants have linked the control means to the needle 9, lever 11, and hydraulic unit 12 without omitting any structural elements that are necessary for carrying out the opening of the shut off means in a controlled manner.

Also, the fact that the means plus function language was not part of the original filed claims is inconsequential. In *Continental Laboratory Products, Inc. v. Medax*

International, Inc., the court found that the original filed claims did not include a means plus function language (namely, card holding means), but on a second amendment, the means plus function language of the card holding means was added to correspond to a latching mechanism. *Continental Laboratory Products, Inc. v. Medax International, Inc.*, 1999 U.S. Dist. Lexis 15383 (S.D.Ca. 1999). According to the court, the claims with the new means plus function clause were allowed by the examiner. The court did not find this amendment to be improper.

Moreover, 35 U.S.C. 112, sixth paragraph does not require that any desired means plus function clause be recited in the claims as originally filed. If there was such a requirement, Congress would have explicitly indicated so. In fact, a requirement that any desired means plus function clause be recited in the claims as originally filed would be contrary to the policy behind the statute, which is to encourage inventors to describe elements in terms of their function to avoid having to provide an exhaustive list of equivalents.

Therefore, the Office has no basis to reject the recitation of a control means for opening the shutoff means in a controlled manner as a means plus function clause. Applicants have complied with 35 U.S.C. 112, and claim 7 is believed to be in proper form.

The Office has additionally objected to the phrase "the control means can be operated independently from movement of the antechamber frame." Although applicants believe that the drawings clearly show the recited limitation, and that one having ordinary skill in the art would understand the limitation as implied from the specification, applicants have removed the objected phrase to advance prosecution. The claims are believed to be in proper form and in compliance with 35 U.S.C. 112.

Claims 7, 9, and 10 were rejected under 35 U.S.C. 103(a) as being obvious from U.S. Patent 3,052,925 to Bronnenkant in view of either U.S. Patent 2,318,031 to Tucker or the Rosato reference (Injection Molding Handbook).

Claims 8 and 11 were rejected under 35 U.S.C. 103(a) as being obvious from U.S. Patent 3,052,925 to Bronnenkant in view of either U.S. Patent 2,318,031 to Tucker or the Rosato reference (Injection Molding Handbook) in view of U.S. Patent 6,322,347 to Xu.

Applicants have rewritten claim 7 to improve clarity. Claim 7 has also been rewritten to recite that the control means for opening the shut-off means in a controlled manner "has a capability to be operated after a delay after the front opening of the antechamber has been completely brought into contact with the mold." This limitation is supported by the specification. Opening the shut-off means after a delay (i.e., some time period) after the front opening of the antechamber has been completely brought into contact with the mold, is implicitly suggested in the last paragraph on page 4 of the specification, which reads as follows:

> It has also been found that the quality of the finished product is more uniform if there is a certain delay (preferably of one or two seconds) between the reaching of maximum pressure inside the antechamber 1 and the opening of the shut-off means 2.

As explained in the attached declaration on page 2, section 4, the only way to achieve a delay between the maximum pressure inside the antechamber and the opening of the shut-off means is to delay the opening of the shut-off means after the antechamber is brought into contact with the mold. Thus, one having ordinary skill in the art would understand that the delay explicitly discussed in the specification requires a delay in the opening of the shut-off means following the antechamber being brought into contact

with the mold. As the Office is no doubt aware, support for the claims can be found implicitly from the specification.

Applicants respectfully submit that rewritten independent claim 7 now recites at least one limitation not taught or suggested by the prior art.

Bronnenkant '925 fails to teach or suggest a control means for opening a shut-off means which has a capability to be operated after a delay after the front opening of the antechamber has been completely brought into contact with the mold, as recited in claim 7. Bronnenkant '925 only provides an instantaneous release that is based on the opening of a nozzle which is dependent on the injection side. The nozzle valve 63 is opened and closed by movement of the nozzle 60. (col. 3, lines 45-63; col. 4, lines 33-43). The Office deems the nozzle valve 63 to be a shut-off means. Fig. 1 (erroneously labeled Fig. 2) shows that the nozzle 60 is threadingly attached, and therefore fixedly connected, to the heating cylinder 14 which is fixed to the ram cylinder 22 by means of screws. The nozzle 63 is instantaneously opened when the nozzle 60 is pressed against the mold by movement of the heating cylinder. Therefore, according to Bronnenkant, the opening of the shut-off means cannot be delayed after the front opening of the antechamber is brought into contact with the mold. Therefore, Bronnenkant fails to teach or suggest a control means for opening a shut-off means operated after a delay after the antechamber has been brought into contact with the mold.

Furthermore, as explained in the attached declaration, a problem with Bronnenkant '925 is that the nozzle 63 opens at a time when contact pressure between the nozzle 63 and the mold is still not high enough to seal the nozzle against the mold. The shut-off means is instantaneously opened once the nozzle 60 is pressed against

the mold. Thus, the method of Bronnenkant '925 is subject to leakage so that the quality of the ultimate product is not acceptable.

Claims 8-11 depend from claim 7 and are therefore believed to be patentable for the same reasons discussed above.

New independent claim 12 recites a control means for opening the shut-off means which has a capability to be operated at any time after a front opening of the antechamber has been completely brought into contact with the mold. This limitation is supported by the specification for the same reason that the "delay" limitation of claim 7 is supported by the specification. As explained above, Bronnenkant '925 does not teach or suggest a method in which the nozzle 63 can be opened at any time after the antechamber is brought into contact with the mold. Therefore, claim 12 and dependent claims 13-16 are believed to be patentable for at least the same reasons as claims 7-11.

New independent claim 17 further recites that the shut-off means is opened in a controlled manner after a delay after maximum pressure build up is reached inside the antechamber, as explicitly described on the last paragraph of page 4 (lines 12-15) of the specification. As explained above, Bronnekant '925 fails to teach or suggest opening the shut-off means after a delay after maximum pressure build up is reached. As explained in the attached declaration, a problem with Bronnenkant '925 is that the nozzle 63 opens at a time when contact pressure between the nozzle 63 and the mold is still not high enough to seal the nozzle against the mold. Thus, the method of Bronnenkant '925 is subject to leakage so that the quality of the ultimate product is not acceptable.

Claim 17 and dependent claims 18-21 are also believed to be patentable for at

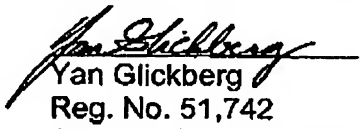
least the same reasons as claims 7-11.

New independent claim 22 recites that the control means for opening the shut-off means in a controlled manner "is operated after a delay after the front opening of the antechamber has been completely brought into contact with the mold." New independent claim 22 is substantially similar to rewritten claim 7, and is therefore patentable for at least the same reasons as claim 7.

New independent claim 23 recites that the control means for opening the shut-off means in a controlled manner "is operated at any time after the front opening of the antechamber has been completely brought into contact with the mold." New independent claim 23 is substantially similar to new independent claim 12, and is therefore patentable for at least the same reasons as claim 12.

Thus, the application and claims are believed to be in condition for allowance and favorable action is respectfully requested.

Respectfully submitted,



Yan Glickberg
Reg. No. 51,742
Attorney for Applicants
Tel. (845) 359-7700

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NOTARO & MICHALOS P.C.
100 Dutch Hill Road, Suite 110
Orangeburg, New York 10962-2100
Customer No. 21706

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